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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,296

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EXAMINER

RIVERA, JOSHEL

ART UNIT

PAPER NUMBER

1791

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,296	Applicant(s) ENOMOTO ET AL.	
	Examiner JOSHEL RIVERA	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/31/2006, 3/13/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims Treated Under 35 USC § 112 Sixth Paragraph

1. Claims 1 – 4, 6 and 9 – 11 are being treated under 35 U.S.C. 112, sixth paragraph since applicant has invoked "means plus function" language and follows the 3-prong analysis as per MPEP §§ 2181:

- a. The claim limitations must use the phrase "means for" or "step for; "
- b. The "means for" or "step for" must be modified by functional language;
- c. The phrase "means for" or "step for" must not be modified by sufficient structure, material, or acts for achieving the specified function

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2 – 6 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. With regards to claims 2 – 4, 6 and 9, the claim elements "moving means, tape bonding means and correction means" are means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to

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disclose the corresponding structure, material, or acts for the claimed function. With regards to the "moving means", applicant states on the Specification that the moving means are for gripping and moving the honeycomb body before it is processed and moves it to a predetermined position and then to a different position after it has been processed (page 16 lines 4 – 11) but there is no description of what these means are. With regards the "tape bonding means" applicant mentions throughout the Specification that the honeycomb structure has a tape bonded but there is no description of the tape bonding means. With respect to the "correction means" applicant only states on page 6 lines 18 – 22 of the Specification that there are correction means present but never describes them.

Applicant is required to:

- (a) Amend the claim so that the claim limitation will no longer be a means (or step)plus function limitation under 35 U.S.C. 112, sixth paragraph; or
- (b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

- (a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function

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and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

4. Additionally, claim 1 recites the limitation "the processing position" in the last three lines of the claim and claim 9 recite "the band-shaped tape" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim

5. With regards to claim 5, applicant states that the "angle of view of the laser oscillation means is approximately the same as the angle of view of the image pick-up unit constituting the image-pick means". It is unclear what the applicant's intention with this claim is since there is no point of reference defined to determine if the angle of view of the laser is equal to the angle of view of the image-pick up unit.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 3, 5, 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta et al. (US Patent 6,811,737) in view of Onodera et al. (Japanese Patent 09-085481).

8. With regards to claim 1, Fukuta teaches a method where the image of a honeycomb body is picked up by a camera and the image is processed by an image processing method to detect the position of all the cells at the end surface, then a sheet is adhered to the end surface of the of the honeycomb and finally a laser is used to pierce the sheet (column 3 lines 37 – 56).

9. Fukuta fails to explicitly disclose that the image pick-up means have a moving type or tilt type mirror capable of reflecting the end surface of the honeycomb structural body onto the same axis as the laser oscillation.

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10. Onodera teaches of a laser machining head that contains an image pick up unit (camera) and a movable mirror that reflects the image of the surface of the work to the camera and is fixed at the optical axis of the laser beam (Abstract).

11. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Onodera's laser head in an apparatus that performs Fukuta's method. The rationale to do so would have been that, as stated by Onodera, this configuration reduces space and the energy loss by the laser (Abstract).

12. With regards to claim 3, the teachings of Fukuta and Onodera are presented above. Fukuta states that the sheet is adhered to the end surface of the honeycomb. Intrinsically this needs to be done with a tape bonding means.

13. With regards to claim 5, the teachings of Fukuta and Onodera are presented above. Additionally since the claim does not recite a point of reference in order to compare the angle of view of one device to another, the angle view of the laser oscillation means is equal to the angle of view of the image pick-up unit since both units must be pointed towards a target in order to function properly.

14. With regards to claim 7, the teachings of Fukuta and Onodera are presented above. Additionally, Onodera explicitly discloses that the laser used is a YAG laser (paragraph 16).

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15. With regards to claim 8, the teachings of Fukuta and Onodera are presented above. Additionally Onodera explicitly discloses that the camera is a CCD camera (Abstract).

16. With regards to claim 10, the teachings of Fukuta and Onodera are presented above. Additionally, since the laser of Fukuta is used to pierce the tape that covers the honeycomb structure in a pattern, the laser is capable of cutting the tape in the outer periphery.

17. It would have been obvious to one of ordinary skills in the art at the time of the invention to use the laser to cut the tape along the outer periphery of the end surface. The rationale to do so would have been that since the laser is capable of cutting the tape one would program a pattern that would include both piercing holes in the tape and cut the tape at the outer periphery. This would save money on equipment since there wouldn't be a need to have a laser beam station plus a cutting station.

18. With regards to claim 11, the teachings of Fukuta and Onodera are presented above. Fukuta explicitly states that the laser is used to pierce the tape in order to create holes (column 3 lines 48 – 56).

19. Claims 2, 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta et al. (US Patent 6,811,737) in view of Onodera et al. (Japanese Patent 09-

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085481) as applied to claims 1, 5, 8, 10 and 11 above, and further in view of Bonzo (US Patent 4,557,773).

20. With regards to claim 2, the teachings of Fukuta and Onodera are presented above. Fukuta and Onodera fail to explicitly disclose using a moving means capable of gripping and moving the honeycomb structural body.

21. Bonzo teaches positioning and lifting the honeycomb structure to the film bonding apparatus (column 15 lines 49 – 57). Intrinsically the structure needs to be gripped while being moved or it will fall from the film bonding apparatus or the bonding tape would be laid on the incorrect surface.

22. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Bonzo's moving means in Fukuta and Onodera's apparatus. The rationale to do so would have been that it would be necessary to have a device that could transport various honeycomb structures to the tape bonding station in order to increase production. Additionally Bonzo states that the structure is moved into position so as not to interfere with the operation of the apparatus (column 15 lines 53 – 55). Gripping would be necessary in order to accurately place the tape on the end surface of the honeycomb structure and not to let the structure fall while being moved.

23. With regards to claim 4, the teachings of Fukuta, Onodera and Bonzo are presented above. Claim 4 contains an optional statement which describes that the invention is able to do the bonding process continuously, hence is not a requirement for

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the apparatus to do this. Specifically, term "can be" is viewed as ability and not that the action is actually performed.

24. With regards to claim 9, the teachings of Fukuta and Onodera are presented above. Fukuta and Onodera fail to explicitly disclose that the tape bonding means bonds a tape wound in a roll state onto the end surface of the honeycomb structure.

25. Bonzo teaches the use of an apparatus for applying a length of tape, film or web to the end face of a honeycomb structure (column 15 lines 33 – 36), where the tape is in a wound state (Figure 14 item 112).

26. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Bonzo's tape bonding means to bond a wound up tape in Fukuta and Onodera's apparatus. The rationale to do so would have been that by using a web of tape production would increase since the bonding process would be continuous.

27. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuta et al. (US Patent 6,811,737) in view of Onodera et al. (Japanese Patent 09-085481) as applied to claims 1, 5, 8, 10 and 11 above, and further in view of Kanehara et al. (Japanese Patent 01-233083).

28. With regards to claim 6, the teachings of Fukuta and Onodera are presented above. Fukuta and Onodera fail to explicitly disclose using a correction means for correcting the distortion in the laser and segmenting the image obtained from the image pick up unit.

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29. Kanehara teaches using a position correcting device for laser beam machining (Title of the patent) that receives an image from the work surface and displays it segmented in a monitor (Abstract, Figure 1 item 15 being the monitor and it can be seen that the image in the monitor is being segmented by the crossing lines 19).

30. It would have been obvious to one of ordinary skills in the art at the time of the invention to use Kanehara's correction device in Fukuta and Onodera's apparatus. The rationale to do so would have been that, as stated by Kanehara, this device is capable of correcting with high accuracy the dislocation between the laser and the machining line (Abstract).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHEL RIVERA whose telephone number is (571) 270-7655. The examiner can normally be reached on Monday - Thursday 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Katarzyna Wyrozebski can be reached on (571) 272-1127. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. R./
Examiner, Art Unit 1791

/KAT WYROZEBSKI/
Supervisory Patent Examiner,
Art Unit 1791